Brauer, F. Ansichten über die paläozoischen Insekten und deren Deutung. Annal. K. K. naturh. Hofmus. Wien. i, pp. 86-126. 2 Pl. 1886.

Redtenbacher, Joseph. Vergleichende Studien ueber das Fiügelgeäder der Insecten. (Annalen des K. K. Naturh. Hofmus. Bd. i, pp. 153-231.) 12 Pls. Wien, 1886. Abstr. by J. H. Comstock in Amer. Nat., xxi, pp. 932-934 1887.

Brauer, F. u. Redtenbacher, J. Ein Beitrag zur Entwicklung des Flügelgeäders der Insekten. Zool. Anz. 1888, pp. 443-447.

Bonsdorff, A. von. Ueber die Ableitung der Sculpturverhältnisse bei den Deck-

flügeln der Coleopteren. Zool. Anz. Jahrg., xiii, 1890, pp. 342-346.

Haase, Erich. Zur entwicklung der Flügelrippen der Schmetterlinge. Zool. Auz., xiv, 1891, pp. 116-117.

Spuler, A. Zur Phylogenie und Ontogenie des Flügelgeäders der Schmetterlinge. Zeits. wissens. Zoologie, liii, pp. 597-646. 2 Pl. 1892.

Comstock, J. H. Evolution and Taxonomy, etc. Ithaca, N. Y. 1893.

Also the works of Kirby and Spence, Burmeister, Doubleday, Herrich-Schaeffer, Westwood, Heer, Osten-Sacken, Scudder, Adolph, Graber, Dyar, Kolbe, Packard, etc.

THE GENUS OXYPTILA.

BY NATHAN BANKS, SEA CLIFF, N. Y.

Oxyptila is a genus of Thomisoid spiders, described by Simon in 1864. I consider the characters of this genus in our fauna are that the quadrangle of the M. E. is higher than broad, that the P. M. E. are closer to each other than to the S. E., and that the body bears clavate hairs. Thus I would not place in the genus O. cinerea Em. (New Eng. Thomisidae), as it bears no clavate hairs and as it has much the appearance of a true X_{V} sticus. In 1877 Thorell described one species of this genus, O. conspurcata, from Colorado. In 1880 Keyserling described two species, O. georgiana and O. nevadensis. In 1882 Kyserling described a

third species, O. monroensis from Ft. Monroe, Va. Dr. Marx in 1890 recorded this species from D. C. In 1892 I recorded both O. georgiana and O. conspurcata from Ithaca, N. Y. I have since decided that O. georgiana is the same as O. conspurcata; at least I can see no other than color differences between forms which agree with the descriptions; and the form which I recorded from New York as O. georgiana is not that species, but is new. I have since received two other new species and obtained O. monroensis from Long Island. The six species may be tabulated as follows:-

3	Dark spots on under side of coxae and trochanters, anterior legs all pale yellowish and not mottled
4 -	Anterior legs considerably mottled except on tarsi and metatarsis, epigynum divided into three cavities
_	Abdomen irregularly spotted, cephalothorax pale behind and near eyes, legs often quite pale

Oxyptila monroensis Keyserling. - Cephalothorax dark brown on sides, paler in middle especially behind; anterior legs dark brown, femora darker than other joints; posterior legs with a dark band at tips of femora and one at base of tibiae; coxae and sternum brownish, abdomen dark brown with a number of small pale dots arranged somewhat in rows. The epigynum consists of a broad cavity somewhat like conspurcata, but the posterior ridge is only slightly concave, and each end limited by a dark oval body; the rounded lobe in front seems to have a cavity at tip; the two small posterior holes are quite close to each other. The legs are shorter than in O. conspurcata.

Ft. Monroe, Va.; Washington, D. C.; Sea Cliff, N. Y.

Oxyptila conspurcata Thorell. (O. georgiana Keyserling.) - Cephalothorax reddish yellow, paler in middle, usually with some silvery white lines, white around eyes; the sides often nearly wholly uniform brown, or two brown stripes, the upper one broadest behind and ending in a darker spot, legs pale yellowish or reddish brown, not mottled, the posterior pair with a black band at tip of femur, a black spot on patella, and a basal black band on tibia; sternum yellowish or brownish; abdomen yellowish, anterior sides brown, two spots on anterior margin, often with silvery spots, and many black ones which behind form three irregular dark bands. The epigynum consists of a broad cavity limited behind by a deeply emarginate line or ridge, which is most prominent on the sides, in front a rounded lobe projects caudad, from each of the small holes there projects an oblique dark body or cavity, the surface above is striate. This gives the appearance figured by Keyserling.

Colorado; Ithaca, N. Y.; Poughkeepsie, N. Y. (G. Van Ingen); Ames, Iowa (C. P. Gillette); Franconia, N. H. (Mrs. A. T. Slosson): Beaver Dam, Wis. (Mr. Snyder). Keyserling recorded georgiana from Georgia and from Peoria, Ill. Most of the northern specimens have the four stripes on cephalothorax; but in a large series from Poughkeepsie both forms occur and numerous gradations; those with four stripes usually have very pale legs.

Oxyptila americana nov. sp. — Length 4.2 mm. Cephalothorax pale, sides thickly mottled with dark brown, darkest behind and there including a pale spot; legs pale, mottled with dark brown, posterior femora banded at tip and tibiae at base with brown or black; sternum with a dark brown central stripe behind, and sides with some brown spots; abdomen pale, anterior sides brown, anterior part of dorsum mostly pale, usually some dark spots, behind several irregular dark brown or black bands. Eyes about as usual, the M. E. equal, the quadrangle of

M. E. broader in front than behind, the P. S. E. nearly as large as the A. S. E. The cephalothorax and abdomen with the usual clavate and spatulate hairs. Legs short and stout, the tibia I concave on outer margin near base; all femora with one spine above, femur I with one spine in front, tibia with two pairs beneath, metatarsus with three pairs beneath and one on each side. The epigynum consists of three cavities, or rather a large cavity divided into three portions by a broad plate; the two lateral cavities are somewhat elliptical, broader behind and contain in the posterior part an almost black, blunt projection, beneath and in front of which is a reddish similar one; the anterior cavity is broadly triangular with rounded angles, and contains, projecting from beneath the posterior border, a broad, rounded, dark body; behind are the two small holes as usual.

Three specimens, Ithaca, N. Y., beneath dead leaves in quite marshy ground. This species, which I formerly regarded as *O. georgiana* (Cayuga Lake Spiders), is quite distinct by its peculiar epigynum, by its mottled legs, and by the two white spots above on the cephalothorax.

Ovyptila pacifica nov. sp. — Length 4 mm. Cephalothorax reddish yellow, paler above, white behind; sides somewhat mottled with hrown, almost forming a superior stripe which is terminated behind by a black spot, brown and white markings around eyes; legs pale yellow, femora spotted with brown, patellae III and IV with a black spot in tront, a dark band at tip of femur and at base of tibia IV; sternum and coxae pale, a brown spot on each coxa and on each trochanter. Abdomen pale, with some silvery spots above and two black spots on front margin, behind two or three irregular interrupted brown bands; venter pale, with a few brown

spots. Eyes about as usual, the M. E. equal. S. E. nearly equal. Cephalothorax and abdomen with two sizes of clavate hairs, the larger size less numerous than the much smaller ones. Legs short, femora with one spine above, femur I with one in front, tibia with two pairs below, metatarsus with three pairs below and one in front. The epigynum consists of a narrow transverse cavity bounded behind by a deeply concave ridge, the sides continued and enlarged posteriorly, the anterior lobe some distance in front, two transverse lines between it and the posterior ridge; behind are the two small holes, less than their diameter apart.

One female and one young male from Olympia, Washington, collected by Mr. Trevor Kincaid.

Oxyptila nevadensis Keys. — This appears to be a very good species, differing from all the others by having two spines on each side of metatarsus I, in that the A. M. E. are a little larger than the P. S. E., and in the different epigynum. The legs are mottled and femur I has three or four spines in front. I have never seen it.

Oxyptila floridana nov. sp. - Length 4 mm. Cephalothorax reddish vellow, almost wholly covered with black markings, eyes surrounded by yellow, three oblong yellowish spots above and two on each side lower down, mandibles black with a yellow spot in the middle, femora pale at base, with black patches, black at tip, tibia and patella almost wholly black, metatarsus black beneath and in front, sternum nearly all black, coxae blackish, abdomen black with white dots, a large white spot on each anterior side, spinnerets white; whole body with a very fine scattered, glistening, silvery pubescence. Eyes about as usual, cephalothorax and abdomen with large and many small clavate hairs; femora with one spine above, femur 1 with one in front, two pairs under tibia, three pairs under metatarsus,

but none above. The epigynum consists of a shallow cavity divided behind by a septum which is connected with the posterior ridge, in front are two transverse lines and further in front the usual anterior lobe, behind each side appears an oblique convoluted body beneath the surface, and a curved ridge.

One specimen of this fine species from Punta Gorda, Florida; collected by Mrs. Annie T. Slosson.

COLIAS HECLA.

Mr. Bean in an interesting paper in the April Psyche on "A Comparison of Colias hecla with Colias meadii and Colias elis" seems to think I made a blunder in describing a pallid Q form of hecla. It appears to me quite illogical for Mr. Bean to theorize in regard to the lesser degree of variation in hecla, and because the discovery of a pallid female somewhat interferes with these theories, to assume that the identification of the pallid female is probably an error. The specimen in question came from Northern Greenland, is bright, beautiful and faultlessly perfect, and there is not

the slightest doubt as to what species it is. Mr. Bean's paper is a very valuable one, but in my opinion there is but one key to the solution of all such problems in the Rhopalocera, and that is the study of many individual specimens representing the entire geographical distribution. If it were possible to get many series of specimens of hecla, elis, and meadii from the entire territory, in a line, from the home of the Arctic highlander to New Mexico, we would be able to solve the problem. I am inclined to think that elis will be found to have a greater range than is at present supposed. To show my opinion of the effect of distribution, I think where a species covers considerable territory that it would be quite possible in many instances for one of experience in such studies to tell almost exactly from whence it came. By using measurements, etc., I think it would not be difficult to prove the Lapland hecla quite distinct from the Greenland one, but get a series representing the intervening territory and your new species will probably fall into the second line. I should also state that Colias nastes, which Mr. Bean thinks I mistook for hecla, is not found in Greenland.

Henry Skinner.

A. SMITH & SONS, 269 PEARL STREET, New York.

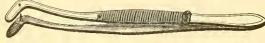


GOODS FOR ENTOMOLOGISTS,

Klaeger and Carlsbad Insect Pins, Setting Boards, Folding Nets, Locality and Special Labels, Forceps, Sheet Cork, Etc. Other articles are being added, Send for List.

JOHN AKHURST,

TAXIDERMIST AND DEALER IN ENTOMOLOGICAL SUPPLIES.



IMPROVED ENTOMOLOGICAL FORCEPS.

Fine Carlsbader Insect Pins a specialty. Price List sent on application.
78 Ashland Place,

BROOKLYN, N. Y. = .